

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A ~~memory to contain~~ digital television signal for use in a digital television receiver for receiving program and system information protocol (PSIP) data about digital television (DTV) content from a broadcast transmitter, the memory being organized to contain a data structure comprising at least one of the digital television signal comprising a PSIP table, wherein the PSIP table comprises:

an information type descriptor ~~segment~~ including an information type identification field that contains a code specifying a data type of extra information associated with a virtual channel or an event in a DTV data stream; and

an extended information descriptor ~~segment~~ including an information expected usage field that includes a first field describing an expected usage of the extra information, the expected usage including a display option of the extra information each of which characterize extra information associated with a virtual channel or an event in a DTV data stream.

2. (Currently Amended) The digital television signal data-structured memory of claim 1, wherein each of said information type descriptor ~~segment~~ and said ~~an~~ extended information descriptor ~~segment~~ further includes:

a descriptor tag field ~~segment~~; and

a descriptor length field ~~segment~~; and

~~an information type identification segment.~~

3. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 2, wherein said descriptor tag field segment has a value of 0xC9 for said information type descriptor ~~segment~~ and a value of 0xC8 for said ~~an~~ extended information descriptor ~~segment~~.

4. (Canceled)

5. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 1 2, wherein ~~said information type identification segment contains a~~ the code included in the information type identification field ~~that~~ characterizes said extra information ~~associated with a virtual channel or an event in a DTV data stream~~ as one of:

- a GIF-formatted image file;
- a JPEG-formatted image file;
- a TIFF-formatted image file;
- an ASCII text file;
- an HTML-formatted text file;
- an XML-formatted text file;
- a basic audio formatted file having a .au file extension;
- an MPEG-formatted audio file;
- a WAV-formatted audio file;
- an MPEG-formatted video file;
- a Quicktime-formatted video file;

an AVI-formatted video file; and

a user-defined formatted file.

6. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 1 2, wherein said information type descriptor ~~segment~~ further includes:

an information description length field ~~segment~~; and

an information description text field ~~segment~~.

7. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 6, wherein said information description length field ~~segment~~ identifies a length of said information description text field ~~segment~~.

8. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 6, wherein said information description text field ~~segment~~ includes text that characterizes said extra information associated with a virtual channel or an event in a DTV data stream.

9. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 8, wherein said information type identification field ~~segment~~ includes a code description corresponding to said text description in said information description text field ~~segment~~.

10. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 1 2, wherein said extended information descriptor ~~segment~~ further includes ~~at least two of:~~  
~~an information expected usage segment;~~  
an information location length field ~~segment~~; and  
an information location text field ~~segment~~.

11. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 1 10, wherein said information expected usage ~~segment~~ field further includes ~~at least one of:~~

~~a first field describes a usage of said extra information anticipated by a creator of said extended information descriptor segment;~~

a second field that describes said extra information as being an advertisement or not; and

a third field that describes a location on a display screen where ~~said a~~ a creator of said extended information descriptor ~~segment~~ anticipates that a representation of said extra information should be positioned.

12. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 1 11, wherein said first field describes said extra information as one of:

undefined so as to have no expected usage;

extended event, extended programming guide (EPG) information that is to be displayed during an EPG display when an event is selected;

extended event selected information that is to be displayed when an event is selected;  
extended channel EPG information that is to be displayed during an EPG display when a channel is selected;  
extended channel selected information that is to be displayed when a channel is selected;  
and  
user-defined information.

13. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 10, wherein said information location length field identifies a remaining length of said extended information descriptor ~~segment~~ as determined by said information location text field segment.

14. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 10, wherein said information location text ~~segment represents~~ field includes a string of text that is interpreted as a universal resource locator (URL).

15. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 14, wherein said URL is a reference to a data program within said DTV data stream or data external to said DTV data stream.

16. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 15, wherein the external data is from the world wide web (WWW).

17. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 15, wherein said data program within said DTV data stream is referenced with a path beginning as

dtv:/

or, said data from the world wide web (WWW) is referenced with a path beginning as

http://

or

http://www.

18. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 1, further comprising a link between said ~~an~~ information type descriptor and at least one of a virtual channel table (VCT) and an event information table (EIT).

19. (Currently Amended) The digital television signal ~~data-structured-memory~~ of claim 1, further comprising a link between said extended information descriptor ~~segment~~ and at least one of a virtual channel table (VCT) and an event information table (EIT).

20. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 1 ~~11~~, wherein said first field describes said extra information as being at least one of:

intended to be displayed during a displaying of an EPG; and

intended to be displayed independently of a displaying of an EPG.

21. (Currently Amended) The digital television signal ~~data-structured memory~~ of claim 11, wherein said third field describes said location as being one of:

undefined so as to have no expected location;

in the background relative to information of greater priority on said display screen;

the upper left quadrant of said display screen;

the upper right quadrant of said display screen;

the lower left quadrant of said display screen; and

in the lower right quadrant of said display screen.

22. (Currently Amended) A method to generate program and system information protocol (PSIP) data about digital television (DTV) content, said PSIP data including at least one PSIP table ~~data-structure~~ as defined in claim 1.

23. (Currently Amended) A program and system information protocol (PSIP) generator to generate PSIP data about digital television (DTV) content, said PSIP data including at least one PSIP table ~~data-structure~~ as defined in claim 1.

24. (Original) The PSIP generator of claim 23, wherein said PSIP generator is embodied on a computer running software.

25. (Original) The PSIP generator of claim 24, wherein said software is written in the language Java.

26. (Currently Amended) A computer-readable article of manufacture having embodied thereon software to generate program and system information protocol (PSIP) data about digital television (DTV) content, said PSIP data including at least one PSIP table data structure as defined in claim 1.

27. (Currently Amended) A method to generate an extended programming guide (EPG) display about content in a digital television (DTV) stream of data packets, said method comprising:

receiving said DTV stream of data packets, said stream containing at least one program and system information protocol (PSIP) ~~data~~;

recognizing an information type descriptor and an extended information descriptor at least one data structure, as defined in claim 1, within said PSIP table data, wherein the information type descriptor includes an information type identification field that contains a code specifying a data type of extra information associated with a virtual channel or an event in the



DTV stream of data packets, and the extended information descriptor includes an information expected usage field which includes a first field describing an expected usage of the extra information, the expected usage including a display option of the extra information; and

generating said EPG display as a function of ~~said at least one data structure~~ at least one of the code included in the information type identification field and the expected usage described in the first field.

28. (Original) A digital television (DTV) receiver embodying the method of claim 27.

29. (Original) The DTV receiver of claim 28, wherein at least part of said DTV receiver is embodied on a computer running software.

30. (Original) The DTV receiver of claim 29, wherein said software is written in the language Java.

31. (Original) A computer-readable article of manufacture having embodied thereon software to perform the method of claim 27.

32. (Canceled)